

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-8 (Canceled).

Claim 9 (Previously Presented): A communication apparatus that is adapted to communicate with another communication apparatus as a communication counterpart, said communication apparatus comprising:

transmitting means for collectively transmitting to the communication counterpart a first operation request to be transmitted to the communication counterpart and a second operation response to a second operation request from the communication counterpart, which first operation request and second operation response are combined in one batch;

receiving means for collectively receiving from the communication counterpart a first operation response to the first operation request transmitted to the communication counterpart and the second operation request from the communication counterpart, which first operation response and second operation request are combined in one batch;

means for executing an operation according to the second operation request from the communication counterpart, and generating the second operation response to said second operation request as an execution result of said operation; and

a memory configured to store data indicating a status of each of the operation requests transmitted and received between the communication apparatus and the communication counterpart.

Claim 10 (Original): The communication apparatus as claimed in claim 9, wherein:
the first operation request and the second operation request each correspond to a function call; and

the first operation response and the second operation response each correspond to an execution result of a function called by the function call.

Claim 11 (Previously Presented): A communication apparatus that is adapted to communicate with another communication apparatus as a communication counterpart, said communication apparatus comprising:

first storage means for storing a second operation request from the communication counterpart and a second operation response to said second operation request;

second storage means for storing a first operation request to the communication counterpart and a first operation response to said first operation request;

request generating means for generating the first operation request to the communication counterpart and storing the generated first operation request in the second storage means;

response generating means for reading from the first storage means the second operation request from the communication counterpart, executing an operation according to said second operation request, generating the second operation response to said second operation request as an execution result of said operation, and storing in the first storage means the generated second operation response in association with the read second operation request;

gathering means for reading from the first storage means the second operation response to the second operation request from the communication counterpart, and reading from the second storage means the first operation request to the communication counterpart;

transmitting means for collectively transmitting to the communication counterpart the second operation response and the first operation request read by the gathering means in one batch;

receiving means for collectively receiving from the communication counterpart the first operation response to the first operation request transmitted to the communication counterpart and the second operation request from the communication counterpart in one batch;

distributing means for storing in the first storage means the second operation request from the communication counterpart received by the receiving means, and storing in the second storage means the first operation response to the first operation request transmitted to the communication counterpart in association with the first operation request transmitted to the communication counterpart; and

a third storage means for storing data indicating a status of each of the operation requests transmitted and received between the communication apparatus and the communication counterpart.

Claim 12 (Original): The communication apparatus as claimed in claim 11, wherein:
the transmitting means is arranged to transmit to the communication counterpart the first operation request and the second operation response as SOAP messages; and
the receiving means is arranged to receive from the communication counterpart the second operation request and the first operation response as SOAP messages.

Claim 13 (Original): The communication apparatus as claimed in claim 11, further comprising:

means for assigning priority information to the second operation request stored in the first storage means and the first operation request stored in the second storage means;
wherein

the response generating means is arranged to successively read from the first storage means the second operation request from the communication counterpart, generate the second operation response to said second operation request, and store the generated second operation response in the first storage means according to the priority information; and

the gathering means is arranged to successively read from the first storage means the second operation response to the second operation request from the communication counterpart according to the priority information, and successively read from the second storage means the first operation request to the communication counterpart according to the priority information.

Claim 14 (Previously Presented): A communication apparatus that is adapted to communicate with another communication apparatus as a communication counterpart, said communication apparatus comprising:

transmitting means for collectively transmitting to the communication counterpart a first SOAP request to be transmitted to the communication counterpart and a second SOAP response to a second SOAP request from the communication counterpart, which first SOAP request and second SOAP response are described in one message;

receiving means for collectively receiving from the communication counterpart a first SOAP response to the first SOAP request transmitted to the communication counterpart and the second SOAP request from the communication counterpart, which first SOAP response and second SOAP request are described in one message;

means for executing an operation being requested by the second SOAP request from the communication counterpart and generating the second SOAP response describing an execution result of said second SOAP request; and

a memory configured to store data indicating a status of each of the operation requests transmitted and received between the communication apparatus and the communication counterpart.

Claim 15 (Original): The communication apparatus as claimed in claim 14, wherein:
the first SOAP request and the second SOAP request each describe a function call;
and
the first SOAP response and the second SOAP response each describe an execution result of a function called by the function call.

Claim 16 (Previously Presented): A communication apparatus that is adapted to communicate with another communication apparatus as a communication counterpart, said communication apparatus comprising:

first storage means for storing a second operation request from the communication counterpart and a second operation response to said second operation request;
second storage means for storing a first operation request to the communication counterpart and a first operation response to said first operation request;
request generating means for generating the first operation request to the communication counterpart and storing the generated first operation request in the second storage means;

response generating means for reading from the first storage means the second operation request from the communication counterpart, executing an operation according to said second operation request, generating the second operation response to said second operation request as an execution result of said operation, and storing in the first storage

means the generated second operation response in association with the read second operation request;

gathering means for reading from the first storage means the second operation response to the second operation request from the communication counterpart, and reading from the second storage means the first operation request to the communication counterpart;

transmitting means for collectively transmitting to the communication counterpart a second SOAP response describing a content of the second operation response read by the gathering means and a first SOAP request describing a content of the first operation request read by the gathering means, which second SOAP response and first SOAP request are described in one message;

receiving means for collectively receiving from the communication counterpart a first SOAP response describing the content of the first operation response to the first operation request transmitted to the communication counterpart and a second SOAP request describing the content of the second operation request that are described in one message;

distributing means for storing in the first storage means the content of the second operation request from the communication counterpart described in the second SOAP request received by the receiving means, and storing in the second storage means the content of the first operation response to the first operation request transmitted to the communication counterpart described in the received first SOAP response in association with the first operation request transmitted to the communication counterpart; and

a third storage means for storing data indicating a status of each of the operation requests transmitted and received between the communication apparatus and the communication counterpart.

Claim 17 (Previously Presented): A communication system for a plurality of communication apparatuses that are adapted to communicate with each other as communication counterparts, said communication system comprising for each communication apparatus:

transmitting means for collectively transmitting to the communication counterpart a first operation request to be transmitted to the communication counterpart and a second operation response to a second operation request from the communication counterpart, which first operation request and second operation response are combined in one batch;

receiving means for collectively receiving from the communication counterpart a first operation response to the first operation request transmitted to the communication counterpart and the second operation request from the communication counterpart, which first operation response and second operation request are combined in one batch;

means for executing an operation according to the second operation request from the communication counterpart, and generating the second operation response to said second operation request as an execution result of said operation; and

a memory configured to store data indicating a status of each of the operation requests transmitted and received between the communication apparatus and the communication counterpart.

Claim 18 (Original): The communication system as claimed in claim 17, wherein:

the first operation request and the second operation request each correspond to a function call; and

the first operation response and the second operation response each correspond to an execution result of a function called by the function call.

Claim 19 (Previously Presented): A communication system for a plurality of communication apparatuses that are adapted to communicate with each other as communication counterparts, said communication system comprising for each communication apparatus:

first storage means for storing a second operation request from the communication counterpart and a second operation response to said second operation request;

second storage means for storing a first operation request to the communication counterpart and a first operation response to said first operation request;

request generating means for generating the first operation request to the communication counterpart and storing the generated first operation request in the second storage means;

response generating means for reading from the first storage means the second operation request from the communication counterpart, executing an operation according to said second operation request, generating the second operation response to said second operation request as an execution result of said operation, and storing in the first storage means the generated second operation response in association with the read second operation request;

gathering means for reading from the first storage means the second operation response to the second operation request from the communication counterpart, and reading from the second storage means the first operation request to the communication counterpart;

transmitting means for collectively transmitting to the communication counterpart the second operation response and the first operation request read by the gathering means in one batch;

receiving means for collectively receiving from the communication counterpart the first operation response to the first operation request transmitted to the communication

counterpart and the second operation request from the communication counterpart in one batch;

distributing means for storing in the first storage means the second operation request from the communication counterpart received by the receiving means, and storing in the second storage means the first operation response to the first operation request transmitted to the communication counterpart in association with the first operation request transmitted to the communication counterpart; and

a third storage means for storing data indicating a status of each of the operation requests transmitted and received between the communication apparatus and the communication counterpart.

Claim 20 (Original): The communication system as claimed in claim 19, wherein:
the transmitting means is arranged to transmit to the communication counterpart the first operation request and the second operation response as SOAP messages; and
the receiving means is arranged to receive from the communication counterpart the second operation request and the first operation response as SOAP messages.

Claim 21 (Original): The communication system as claimed in claim 19, further comprising for each communication apparatus:

means for assigning priority information to the second operation request stored in the first storage means and the first operation request stored in the second storage means;
wherein

the response generating means of each communication apparatus is arranged to successively read from the first storage means the second operation request from the communication counterpart, generate the second operation response to said second operation

request, and store the generated second operation response in the first storage means according to the priority information;

the gathering means of each communication apparatus is arranged to successively read from the first storage means the second operation response to the second operation request from the communication counterpart according to the priority information, and successively read from the second storage means the first operation request to the communication counterpart according to the priority information.

Claims 22-26 (Canceled).

Claim 27 (Previously Presented): A medium storing programs for controlling a computer to function as a communication apparatus that is adapted to communicate with another communication apparatus as a communication counterpart, said medium containing programs for the computer to function as:

transmitting means for collectively transmitting to the communication counterpart a first operation request to be transmitted to the communication counterpart and a second operation response to a second operation request from the communication counterpart, which first operation request and second operation response are combined in one batch;

receiving means for collectively receiving from the communication counterpart a first operation response to the first operation request transmitted to the communication counterpart and the second operation request from the communication counterpart, which first operation response and second operation request are combined in one batch;

means for executing an operation according to the second operation request from the communication counterpart, and generating the second operation response to said second operation request as an execution result of said operation; and

a memory configured to store data indicating a status of each of the operation requests transmitted and received between the communication apparatus and the communication counterpart.

Claim 28 (Original): The medium implementing the programs as claimed in claim 27, wherein:

the first operation request and the second operation request each correspond to a function call; and

the first operation response and the second operation response each correspond to an execution result of a function called by the function call.

Claim 29 (Previously Presented): A medium storing a program for controlling a computer to function as a communication apparatus that is adapted to communicate with another communication apparatus as a communication counterpart, said medium containing programs for the computer to function as:

first storage means for storing a second operation request from the communication counterpart and a second operation response to said second operation request;

second storage means for storing a first operation request to the communication counterpart and a first operation response to said first operation request;

request generating means for generating the first operation request to the communication counterpart and storing the generated first operation request in the second storage means;

response generating means for reading from the first storage means the second operation request from the communication counterpart, executing an operation according to said second operation request, generating the second operation response to said second

operation request as an execution result of said operation, and storing in the first storage means the generated second operation response in association with the read second operation request;

gathering means for reading from the first storage means the second operation response to the second operation request from the communication counterpart, and reading from the second storage means the first operation request to the communication counterpart;

transmitting means for collectively transmitting to the communication counterpart the second operation response and the first operation request read by the gathering means in one batch;

receiving means for collectively receiving from the communication counterpart the first operation response to the first operation request transmitted to the communication counterpart and the second operation request from the communication counterpart in one batch;

distributing means for storing in the first storage means the second operation request from the communication counterpart received by the receiving means, and storing in the second storage means the first operation response to the first operation request transmitted to the communication counterpart in association with the first operation request transmitted to the communication counterpart; and

a third storage means for storing data indicating a status of each of the operation requests transmitted and received between the communication apparatus and the communication counterpart.

Claim 30 (Original): The medium storing the program as claimed in claim 29,
wherein:

the transmitting means is arranged to transmit to the communication counterpart the first operation request and the second operation response as SOAP messages; and
the receiving means is arranged to receive from the communication counterpart the second operation request and the first operation response as SOAP messages.

Claim 31 (Original): The medium storing the programs as claimed in claim 29, further containing a program for the computer to function as:

means for assigning priority information to the second operation request stored in the first storage means and the first operation request stored in the second storage means;
wherein

the response generating means is arranged to successively read from the first storage means the second operation request from the communication counterpart, generate the second operation response to said second operation request, and store the generated second operation response in the first storage means according to the priority information; and

the gathering means is arranged to successively read from the first storage means the second operation response to the second operation request from the communication counterpart according to the priority information, and successively read from the second storage means the first operation request to the communication counterpart according to the priority information.

Claim 32 (Previously Presented): A communication client that is adapted to transmit a communication request to a communication server, and receive a communication response to said communication request from the communication server, wherein the communication request describes a client request corresponding to a client operation request to the

communication server, and the communication response describes a client operation response to the client request, said communication client comprising:

transmitting means for collectively transmitting to the communication server the client request and a server operation response to a server request corresponding to a server operation request from the communication server that are described together in the communication request;

receiving means for collectively receiving from the communication server the client operation response to the client request transmitted to the communication server and the server request that are described together in the communication response to the communication request;

means for executing an operation according to the server request and generating the server operation response to the server request as an execution result of said operation; and

a memory configured to store data indicating a status of each of the operation requests transmitted and received between the communication server and the client.

Claim 33 (Previously Presented): The communication client as claimed in claim 32, wherein:

the client operation request and the server operation request each correspond to a function call; and

the client operation response and the client operation response each correspond to an execution result of a function called by the function call.

Claim 34 (Previously Presented): A communication client that is adapted to transmit a communication request to a communication server, and receive a communication response to said communication request from the communication server, wherein the communication

request describes a client request corresponding to a client operation request to the communication server, and the communication response describes a client operation response to the client request, said communication client comprising:

first storage means for storing a server request corresponding to a sever operation request from the communication server and a server operation response to said server request;

second storage means for storing the client request and a client operation response to said client request;

request generating means for generating the client request and storing the generated client request in the second storage means;

response generating means for reading the server request from the first storage means, executing an operation according to said server request, generating the server operation response to said server request as an execution result of said operation, and storing in the first storage means the generated server operation response in association with the read server request;

gathering means for reading the server operation response to the server request from the first storage means, and reading the client request from the second storage means;

transmitting means for collectively transmitting to the communication server the read server operation response and client request that are described together in the communication request;

receiving means for collectively receiving from the communication server the client operation response to the client request transmitted to the communication server and the server request that are described together in the communication response to the communication request;

distributing means for storing in the first storage means the server request received by the receiving means, and storing in the second storage means the received client operation

response to the client request transmitted to the communication server in association with the client request transmitted to the communication server; and

a third storage means for storing data indicating a status of each of the operation requests transmitted and received between the communication server and the client.

Claim 35 (Original): The communication client as claimed in claim 34, wherein the transmitting means is arranged to periodically transmit the communication request to the communication server.

Claim 36 (Original): The communication client as claimed in claim 34, wherein:

the transmitting means is arranged to transmit to the communication server the client operation request and the server operation response as SOAP messages; and

the receiving means is arranged to receive from the communication server the server operation request and the client operation response as SOAP messages.

Claim 37 (Original): The communication client as claimed in claim 34, further comprising:

means for assigning priority information to the server request stored in the first storage means and the client request stored in the second storage means; wherein the response generating means is arranged to successively read the server request from the first storage means, generate the server operation response to said server request, and store the generated server operation response in the first storage means according to the priority information; and

the gathering means is arranged to successively read the server operation response to the server request from the first storage means according to the priority information, and

successively read the client request from the second storage means according to the priority information.

Claim 38 (Previously Presented): A communication client that is adapted to transmit an HTTP request to a communication server, and receive an HTTP response to said HTTP request from the communication server, wherein the HTTP request describes a client SOAP request to the communication server, and the HTTP response describes a client SOAP response to the client SOAP request, said communication client comprising:

transmitting means for collectively transmitting to the communication server the client SOAP request and a server SOAP response to a server SOAP request from the communication server that are described together in the HTTP request;

receiving means for collectively receiving from the communication server the client SOAP response to the client SOAP request transmitted to the communication server and the server SOAP request from the communication server that are described together in the HTTP response;

means for executing an operation according to the server SOAP request received from the communication server and generating an execution result of said operation that is to be described in the server SOAP response to said server SOAP request; and

a memory configured to store data indicating a status of each of the operation requests transmitted and received between the communication server and the client.

Claim 39 (Original): The communication client as claimed in claim 38, wherein:
the client SOAP request and the server SOAP request each describe a function call;
and

the client SOAP response and the server SOAP response each describe an execution result of a function called by the function call.

Claim 40 (Previously Presented): A communication client that is adapted to transmit an HTTP request to a communication server, and receive an HTTP response to said HTTP request from the communication server, wherein the HTTP request describes a client SOAP request to the communication server, and the HTTP response describes a client SOAP response to the client SOAP request, said communication client comprising:

first storage means for storing a server request corresponding to an server operation request from the communication server and a server operation response to said server request;

second storage means for storing a client request corresponding to a client operation request to the communication server and a client operation response to said client request;

request generating means for generating the client request and storing the generated client request in the second storage means;

response generating means for reading the server request from the first storage means, executing an operation according to said server request, generating the server operation response to said server request as an execution result of said operation, and storing in the first storage means the generated server operation response in association with the read server request;

gathering means for reading the server operation response to the server request from the first storage means, and reading the client request from the second storage means;

transmitting means for collectively transmitting to the communication server the server SOAP response describing a content of the server operation response read by the gathering means and the client SOAP request describing a content of the client request read by the gathering means that are described together in the HTTP request;

receiving means for collectively receiving from the communication server the client SOAP response to the client SOAP request transmitted to the communication server and the server SOAP request from the communication server that are described together in the HTTP response to the HTTP request;

distributing means for storing in the first storage means the content of the server request described in the server SOAP request received by the receiving means, and storing in the second storage means the content of the client operation response to the client request transmitted to the communication server, which client operation response is described in the client SOAP response received by the receiving means, in association with the client request transmitted to the communication server; and

a third storage means for storing data indicating a status of each of the operation requests transmitted and received between the communication server and the client.

Claim 41 (Original): The communication client as claimed in claim 40, wherein the transmitting means is arranged to periodically transmit the HTTP request to the communication server.

Claim 42 (Original): The communication client as claimed in claim 40, further comprising:

means for assigning priority information to the server request stored in the first storage means and the client request stored in the second storage means; wherein the response generating means is arranged to successively read the server request from the first storage means, generate the server operation response to said server request, and store the generated server operation response in the first storage means according to the priority information; and

the gathering means is arranged to successively read the server operation response to the server request from the first storage means according to the priority information, and successively read the client request from the second storage means according to the priority information.

Claims 43-48 (Canceled).

Claim 49 (Previously Presented): A medium storing programs for controlling a computer to function as a communication client that is adapted to transmit a communication request to a communication server, and receive a communication response to said communication request from the communication server, wherein the communication request describes a client request corresponding to an operation request to the communication server, and the communication response describes an operation response to the client request, said medium containing programs for the computer to function as:

transmitting means for collectively transmitting to the communication server the client request and an operation response to a server request corresponding to an operation request from the communication server that are described together in the communication request;

receiving means for collectively receiving from the communication server the operation response to the client request transmitted to the communication server and the server request that are described together in the communication response to the communication request;

means for executing an operation according to the server request and generating the operation response to the server request as an execution result of said operation; and

a memory configured to store data indicating a status of each of the operation requests transmitted and received between the communication server and the client.

Claim 50 (Original): The medium storing the programs as claimed in claim 49, wherein:

the operation request corresponds to a function call; and
the operation response corresponds to an execution result of a function called by the function call.

Claim 51 (Previously Presented): A medium storing programs for controlling a computer to function as a communication client that is adapted to transmit a communication request to a communication server, and receive a communication response to said communication request from the communication server, wherein the communication request describes a client request corresponding to an operation request to the communication server, and the communication response describes an operation response to the client request, said medium containing programs for the computer to function as:

first storage means for storing a server request corresponding to an operation request from the communication server and an operation response to said server request;

second storage means for storing the client request and an operation response to said client request;

request generating means for generating the client request and storing the generated client request in the second storage means;

response generating means for reading the server request from the first storage means, executing an operation according to said server request, generating the operation response to

said server request as an execution result of said operation, and storing in the first storage means the generated operation response in association with the read server request;

gathering means for reading the operation response to the server request from the first storage means, and reading the client request from the second storage means;

transmitting means for collectively transmitting to the communication server the read operation response and client request that are described together in the communication request;

receiving means for collectively receiving from the communication server the operation response to the client request transmitted to the communication server and the server request that are described together in the communication response to the communication request;

distributing means for storing in the first storage means the server request received by the receiving means, and storing in the second storage means the received operation response to the client request transmitted to the communication server in association with the client request transmitted to the communication server; and

a third storage means for storing data indicating a status of each of the operation requests transmitted and received between the communication server and the client.

Claim 52 (Original): The medium storing the programs as claimed in claim 51, wherein the transmitting means is arranged to periodically transmit the communication request to the communication server.

Claim 53 (Original): The medium storing the programs as claimed in claim 51, wherein:

the transmitting means is arranged to transmit to the communication server the operation request and the operation response as respective SOAP messages; and

the receiving means is arranged to receive from the communication server the operation request and the operation response as respective SOAP messages.

Claim 54 (Original): The medium storing the programs as claimed in claim 51, further containing a program for controlling the computer to function as:

means for assigning priority information to the server request stored in the first storage means and the client request stored in the second storage means; wherein

the response generating means is arranged to successively read the server request from the first storage means, generate the operation response to said server request, and store the generated operation response in the first storage means according to the priority information; and

the gathering means is arranged to successively read the operation response to the server request from the first storage means according to the priority information, and successively read the client request from the second storage means according to the priority information.

Claim 55 (Previously Presented): A communication server that is adapted to receive a communication request from a communication client, and transmit a communication response to said communication request to the communication client, wherein the communication request describes a client request corresponding to an operation request from the communication client, and the communication response describes an operation response to the client request, said communication server comprising:

receiving means for collectively receiving from the communication client the client request and an operation response to a server request corresponding to an operation request transmitted to the communication client that are described together in the communication request;

transmitting means for collectively transmitting to the communication client the operation response to the client request received from the communication client and the server request that are described together in the communication response to the communication request;

means for executing an operation according to the client request and generating the operation response to the client request as an execution result of said operation; and

a third storage means for storing data indicating a status of each of the operation requests transmitted and received between the communication server and the client.

Claim 56 (Original): The communication server as claimed in claim 55, wherein:
the operation request corresponds to a function call; and
the operation response corresponds to an execution result of a function called by the function call.

Claim 57 (Previously Presented): A communication server that is adapted to receive a communication request from a communication client, and transmit a communication response to said communication request to the communication client, wherein the communication request describes a client request corresponding to an operation request from the communication client, and the communication response describes an operation response to the client request, said communication server comprising:

first storage means for storing the client request and an operation response to said client request;

second storage means for storing a server request corresponding to an operation request to the communication client and an operation response to said server request;

request generating means for generating the server request and storing the generated server request in the second storage means;

response generating means for reading the client request from the first storage means, executing an operation according to said client request, generating the operation response to said client request as an execution result of said operation, and storing in the first storage means the generated operation response in association with the read client request;

receiving means for collectively receiving from the communication client the client request and the operation response to the server request transmitted to the communication client that are described together in the communication request;

distributing means for storing in the first storage means the client request received by the receiving means, and storing in the second storage means the received operation response to the server request transmitted to the communication client in association with the server request transmitted to the communication client;

gathering means for reading the operation response to the client request from the first storage means, and reading the server request from the second storage means;

transmitting means for collectively transmitting to the communication client the read operation response and server request that are described together in the communication response; and

a third storage means for storing data indicating a status of each of the operation requests transmitted and received between the communication server and the client.

Claim 58 (Original): The communication server as claimed in claim 57, wherein:
the receiving means is arranged to receive the operation response and the operation
request from the communication client as respective SOAP messages; and
the transmitting means is arranged to transmit the operation response and the
operation request to the communication client as respective SOAP messages.

Claim 59 (Original): The communication server as claimed in claim 57, further
comprising:

means for assigning priority information to the client request stored in the first storage
means and the server request stored in the second storage means; wherein
the response generating means is arranged to successively read the client request from
the first storage means, generate the operation response to said client request, and store the
generated operation response in the first storage means according to the priority information;
and

the gathering means is arranged to successively read the operation response to the
client request from the first storage means according to the priority information, and
successively read the server request from the second storage means according to the priority
information.

Claim 60 (Previously Presented): A communication server that is adapted to receive
an HTTP request from a communication client, and transmit an HTTP response to said
communication request to the communication client, wherein the HTTP request describes a
SOAP request from the communication client, and the HTTP response describes a SOAP
response to said SOAP request, said communication server comprising:

receiving means for collectively receiving from the communication client the SOAP request and a SOAP response to a SOAP request transmitted to the communication client that are described together in the HTTP request;

transmitting means for collectively transmitting to the communication client the SOAP response to the SOAP request from the communication client and the SOAP request to the communication client that are described together in the HTTP response to the HTTP request;

means for executing an operation according to the SOAP request received from the communication client and generating an execution result of said operation that is to be described in the SOAP response to said SOAP request; and

a memory configured to store data indicating a status of each of the operation requests transmitted and received between the communication server and the client.

Claim 61 (Original): The communication server as claimed in claim 60, wherein:
the SOAP request describes a function call; and
the SOAP response describes an execution result of a function called by the function call.

Claim 62 (Previously Presented): A communication server that is adapted to receive an HTTP request from a communication client, and transmit an HTTP response to said communication request to the communication client, wherein the HTTP request describes a SOAP request from the communication client, and the HTTP response describes a SOAP response to said SOAP request, said communication server comprising:

first storage means for storing a client request corresponding to an operation request from the communication client and an operation response to said client command;

second storage means for storing a server request corresponding to an operation request to the communication client and an operation response to said server request; request generating means for generating the server request and storing the generated server request in the second storage means;

response generating means for reading the client request from the first storage means; executing an operation according to said client request, generating the operation response to said client request as an execution result of said operation, and storing in the first storage means the generated operation response in association with the read client request;

receiving means for collectively receiving from the communication client the SOAP request describing the client request and the SOAP response, corresponding to a response to the SOAP request transmitted to the communication client and describing the operation response to the server request transmitted to the communication client, that are described together in the HTTP request;

distributing means for storing in the first storage means a content of the client request described in the SOAP request received by the receiving means and storing in the second storage means a content of the operation response described in the SOPA SOAP response received by the receiving means in association with the server request transmitted to the communication client;

gathering means for reading the operation response to the client request from the first storage means, and reading the server request from the second storage means;

transmitting means for collectively transmitting to the communication client the SOAP response describing the content of the operation response read by the gathering means and the SOAP request describing the content of the operation request read by the gathering means that are described together in the HTTP response to the HTTP request; and

a third storage means for storing data indicating a status of each of the operation requests transmitted and received between the communication server and the client.

Claim 63 (Original): The communication server as claimed in claim 62, further comprising:

means for assigning priority information to the client request stored in the first storage means and the server request stored in the second storage means; wherein

the response generating means is arranged to successively read the client request from the first storage means, generate the operation response to said client request, and store the generated operation response in the first storage means according to the priority information; and

the gathering means is arranged to successively read the operation response to the client request from the first storage means according to the priority information, and successively read the server request from the second storage means according to the priority information.

Claims 64-68 (Canceled).

Claim 69 (Previously Presented): A medium storing programs for controlling a computer to function as a communication server that is adapted to receive a communication request from a communication client, and transmit a communication response to said communication request to the communication client, wherein the communication request describes a client request corresponding to an operation request from the communication client, and the communication response describes an operation response to the client request, said medium containing programs for the computer to function as:

receiving means for collectively receiving from the communication client the client request and an operation response to a server request corresponding to an operation request transmitted to the communication client that are described together in the communication request;

transmitting means for collectively transmitting to the communication client the operation response to the client request received from the communication client and the server request that are described together in the communication response to the communication request;

means for executing an operation according to the client request and generating the operation response to the client request as an execution result of said operation; and

a memory configured to store data indicating a status of each of the operation requests transmitted and received between the communication server and the client.

Claim 70 (Original): The medium storing the programs as claimed in claim 69, wherein:

the operation request corresponds to a function call; and
the operation response corresponds to an execution result of a function called by the function call.

Claim 71 (Previously Presented): A medium storing programs for controlling a computer to function as a communication server that is adapted to receive a communication request from a communication client, and transmit a communication response to said communication request to the communication client, wherein the communication request describes a client request corresponding to an operation request from the communication

client, and the communication response describes an operation response to the client request, said medium containing programs for the computer to function as:

first storage means for storing the client request and an operation response to said client request;

second storage means for storing a server request corresponding to an operation request to the communication client and an operation response to said server request;

request generating means for generating the server request and storing the generated server request in the second storage means;

response generating means for reading the client request from the first storage means, executing an operation according to said client request, generating the operation response to said client request as an execution result of said operation, and storing in the first storage means the generated operation response in association with the read client request;

receiving means for collectively receiving from the communication client the client request and the operation response to the server request transmitted to the communication client that are described together in the communication request;

distributing means for storing in the first storage means the client request received by the receiving means, and storing in the second storage means the received operation response to the server request transmitted to the communication client in association with the server request transmitted to the communication client;

gathering means for reading the operation response to the client request from the first storage means, and reading the server request from the second storage means;

transmitting means for collectively transmitting to the communication client the read operation response and server request that are described together in the communication response; and

a third storage means for storing data indicating a status of each of the operation requests transmitted and received between the communication server and the client.

Claim 72 (Original): The medium storing the programs as claimed in claim 71, wherein:

the receiving means is arranged to receive the operation response and the operation request from the communication client as respective SOAP messages; and

the transmitting means is arranged to transmit the operation response and the operation request to the communication client as respective SOAP messages.

Claim 73 (Original): The medium storing the programs as claimed in claim 71, further containing a program for controlling the computer to function as:

means for assigning priority information to the client request stored in the first storage means and the server request stored in the second storage means; wherein

the response generating means is arranged to successively read the client request from the first storage means, generate the operation response to said client request, and store the generated operation response in the first storage means according to the priority information; and

the gathering means is arranged to successively read the operation response to the client request from the first storage means according to the priority information, and successively read the server request from the second storage means according to the priority information.

Claim 74 (Previously Presented): A communication system for a communication client and a communication server, wherein the communication client transmits a

communication request to the communication server and receives a communication response to said communication request from the communication server, said communication request describing a client request corresponding to a client operation request to the communication server, said communication response describing a client operation response to said client request, the communication system comprising:

client transmitting means for collectively transmitting to the communication server the client request and a server operation response to a server request corresponding to a server operation request from the communication server that are described together in the communication request;

client receiving means for collectively receiving from the communication server the client operation response to the client request transmitted to the communication server and the server request that are described together in the communication response to the communication request;

client executing means for executing an operation according to the server request and generating the server operation response to the server request as an execution result of said operation; and

a client memory configured to store data indicating a status of each of the operation requests transmitted and received between the communication server and the client; and

server receiving means for collectively receiving from the communication client the client request and the server operation response to the server request transmitted to the communication client that are described together in the communication request;

server transmitting means for collectively transmitting to the communication client the client operation response to the client request received from the communication client and the server request that are described together in the communication response to the communication request;

server executing means for executing an operation according to the client request and generating the client operation response to the client request as an execution result of said operation; and

a server memory configured to store data indicating a status of each of the operation requests transmitted and received between the communication server and the client.

Claim 75 (Original): The communication system as claimed in claim 74, wherein:
the client operation request and the server operation request each correspond to a function call; and

the client operation response and the server operation response each correspond to an execution result of a function called by the function call.

Claim 76 (Previously Presented): A communication system for a communication client and a communication server, wherein the communication client transmits a communication request to the communication server and receives a communication response to said communication request from the communication server, said communication request describing a client request corresponding to a client operation request to the communication server, said communication response describing a client operation response to said client request, said communication system comprising:

client first storage means for storing a server request corresponding to a server operation request from the communication server and a server operation response to said server request;

client second storage means for storing the client request and the client operation response to said client request;

client request generating means for generating the client request and storing the generated client request in the second storage means;

client response generating means for reading the server request from the first storage means, executing an operation according to said server request, generating the sever operation response to said server request as an execution result of said operation, and storing in the client first storage means the generated server operation response in association with the read server request;

client gathering means for reading the server operation response to the server request from the client first storage means, and reading the client request from the client second storage means;

client transmitting means for collectively transmitting to the communication server the read server operation response and client request that are described together in the communication request;

client receiving means for collectively receiving from the communication server the client operation response to the client request transmitted to the communication server and the server request that are described together in the communication response to the communication request;

client distributing means for storing in the client first storage means the server request received by the receiving means, and storing in the client second storage means the received client operation response to the client request transmitted to the communication server in association with the client request transmitted to the communication server; and

client third storage means for storing data indicating a status of each of the operation requests transmitted and received between the communication server and the client;

server first storage means for storing the client request and the client operation response to said client request;

server second storage means for storing the server request and the server operation response to said server request;

server request generating means for generating the server request and storing the generated server request in the server second storage means;

server response generating means for reading the client request from the server first storage means, executing an operation according to said client request, generating the client operation response to said client request as an execution result of said operation, and storing in the server first storage means the generated client operation response in association with the read client request;

server receiving means for collectively receiving from the communication client the client request and the server operation response to the server request transmitted to the communication client that are described together in the communication request;

server distributing means for storing in the server first storage means the client request received by the receiving means, and storing in the server second storage means the received server operation response to the server request transmitted to the communication client in association with the server request transmitted to the communication client;

server gathering means for reading the client operation response to the client request from the server first storage means, and reading the server request from the server second storage means;

transmitting means for collectively transmitting to the communication client the read client operation response and server request that are described together in the communication response to the communication request received by the server receiving means; and

server third storage means for storing data indicating a status of each of the operation requests transmitted and received between the communication server and the client.

Claim 77 (Original): The communication system as claimed in claim 76, wherein the client transmitting means is arranged to periodically transmit the communication request to the communication server.

Claim 78 (Original): The communication system as claimed in claim 76, wherein:

the client transmitting means is arranged to transmit the client operation request and the server operation response to the communication server as SOAP messages; and

the client receiving means is arranged to receive the server operation request and the client operation response from the communication server as SOAP messages;

the server receiving means is arranged to receive the server operation response and the client operation request from the communication client as SOAP messages; and

the server transmitting means is arranged to transmit the client operation response and the server operation request to the communication client as SOAP messages.

Claim 79 (Original): The communication system as claimed in claim 76, further comprising:

client prioritizing means for assigning priority information to the server request stored in the first storage means and the client request stored in the second storage means; wherein

the client response generating means is arranged to successively read the server request from the first storage means, generate the server operation response to said server request, and store the generated server operation response in the client first storage means according to the priority information;

the client gathering means is arranged to successively read the server operation response to the server request from the client first storage means according to the priority

information, and successively read the client request from the client second storage means according to the priority information;

said communication system further comprising:

server prioritizing means for assigning priority information to the client request stored in the server first storage means and the server request stored in the server second storage means; wherein

the server response generating means is arranged to successively read the client request from the first storage means, generate the client operation response to said client request, and store the generated client operation response in the server first storage means according to the priority information; and

the server gathering means is arranged to successively read the client operation response to the client request from the server first storage means according to the priority information, and successively read the server request from the server second storage means according to the priority information.

Claim 80 (Previously Presented): A communication system for a communication client and a communication server, wherein the communication client transmits an HTTP request to the communication server and receives an HTTP response to the HTTP request from the communication server, said HTTP request describing a client SOAP request to the communication server, said HTTP response describing a client SOAP response to said client SOAP request, said communication system comprising:

client transmitting means for collectively transmitting to the communication server the client SOAP request to the communication server and a server SOAP response to a server SOAP request from the communication server that are described together in the HTTP request;

client receiving means for collectively receiving from the communication server the client SOAP response to the client SOAP request transmitted to the communication server and the server SOAP request from the communication server that are described together in the HTTP response to the HTTP request;

client executing means for executing an operation according to the server SOAP request received from the communication server and generating an execution result of said operation that is to be described in the server SOAP response to said server SOAP request; and

client memory configured to store data indicating a status of each of the operation requests transmitted and received between the communication server and the client;

server receiving means for collectively receiving from the communication client the client SOAP request from the communication client and the server SOAP response to the server SOAP request transmitted to the communication client that are described together in the HTTP request;

server transmitting means for collectively transmitting to the communication client the client SOAP response to the client SOAP request from the communication client and the server SOAP request to the communication client that are described together in the HTTP response to the HTTP request;

server executing means for executing an operation according to the client SOAP request received from the communication client and generating an execution result of said operation that is to be described in the client SOAP response to said client SOAP request; and

server memory configured to store data indicating a status of each of the operation requests transmitted and received between the communication server and the client.

Claim 81 (Original): The communication system as claimed in claim 80, wherein:

the client SOAP request and the server SOAP request each describe a function call;
and

the client SOAP response and the server SOAP response each describe an execution
result of a function called by the function call.

Claim 82 (Currently Amended): A communication system for a communication
client and a communication server, wherein the communication client transmits an HTTP
request to the communication server and receives an HTTP response to the HTTP request
from the communication server, said HTTP request describing a client SOAP request to the
communication server, said HTTP response describing a client SOAP response to said client
SOAP request, said communication system comprising:

client first storage means for storing a server request corresponding to a server
operation request from the communication server and an server operation response to said
server request;

client second storage means for storing a client request corresponding to a client
operation request to the communication server and a client operation response to said client
request;

client request generating means for generating the client request and storing the
generated client request in the client second storage means;

client response generating means for reading the server request from the client first
storage means, executing an operation according to said server request, generating the server
operation response to said server request as an execution result of said operation, and storing
in the client first storage means the generated server operation response in association with
the read server request;

client gathering means for reading the server operation response to the server request from the client first storage means, and reading the client request from the client second storage means;

client transmitting means for collectively transmitting to the communication server the server SOAP response describing a content of the server operation response read by the client gathering means and the client SOAP request describing a content of the client request read by the client gathering means that are described together in the HTTP request;

client receiving means for collectively receiving from the communication server the client SOAP response to the client SOAP request transmitted to the communication server and the server SOAP request from the communication server that are described together in the HTTP response to the HTTP request;

client distributing means for storing in the client first storage means the content of the server request described in the server SOAP request received by the client receiving means, and storing in the client second storage means the content of the client operation response to the client request transmitted to the communication server, which client operation response is described in the client SOAP response received by the client receiving means, in association with the client request transmitted to the communication server; and

client third storage means for storing data indicating a status of each of the operation requests transmitted and received between the communication server and the client;

server first storage means for storing the client request and the client operation response to said client command;

server second storage means for storing the server request and the server operation response to said server request;

server request generating means for generating the server request and storing the generated server request in the server second storage means;

server response generating means for reading the client request from the server first storage means, executing an operation according to said client request, generating the client operation response to said client request as an execution result of said operation, and storing in the server first storage means the generated client operation response in association with the read client request;

server receiving means for collectively receiving from the communication client the client SOAP request describing the client request and the server SOAP response to the server SOAP request describing the server operation response to the server request transmitted to the communication client, that are described together in the HTTP request;

server distributing means for storing in the server first storage means a content of the client request described in the client SOAP request received by the server receiving means and storing in the server second storage means a content of the server operation response described in the server SOAP response received by the server receiving means in association with the server request transmitted to the communication client;

server gathering means for reading the client operation response to the client request from the server first storage means, and reading the server request from the server second storage means;

server transmitting means for collectively transmitting to the communication client the client SOAP response describing the content of the client operation response read by the server gathering means and the server SOAP request describing the content of the server operation request read by the server gathering means that are described together in the HTTP response to the HTTP request; and

client server third storage means for storing data indicating a status of each of the operation requests transmitted and received between the communication server and the client.

Claim 83 (Original): The communication system as claimed in claim 82, wherein the client transmitting means is arranged to periodically transmit the HTTP request to the communication server.

Claim 84 (Original): The communication system as claimed in claim 82, further comprising:

client prioritizing means for assigning priority information to the server request stored in the client first storage means and the client request stored in the client second storage means; wherein

the client response generating means is arranged to successively read the server request from the client first storage means, generate the server operation response to said server request, and store the generated server operation response in the client first storage means according to the priority information;

the client gathering means is arranged to successively read the server operation response to the server request from the client first storage means according to the priority information, and successively read the client request from the client second storage means according to the priority information;

said communication system further comprising:

server prioritizing means for assigning priority information to the client request stored in the server first storage means and the server request stored in the server second storage means; wherein

the server response generating means is arranged to successively read the client request from the server first storage means, generate the client operation response to said client request, and store the generated client operation response in the server first storage means according to the priority information; and

the server gathering means is arranged to successively read the client operation response to the client request from the server first storage means according to the priority information, and successively read the server request from the server second storage means according to the priority information.

Claims 85-90 (Cancelled)

Claim 91 (Previously Presented): The communication apparatus as claimed in claim 16, further comprising:

means for assigning priority information to the second operation request stored in the first storage means and the first operation request stored in the second storage means; wherein

the response generating means is arranged to successively read from the first storage means the second operation request from the communication counterpart, generate the second operation response to said second operation request, and store the generated second operation response in the first storage means according to the priority information; and

the gathering means is arranged to successively read from the first storage means the second operation response to the second operation request from the communication counterpart according to the priority information, and successively read from the second storage means the first operation request to the communication counterpart according to the priority information.